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18 August 1982

Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 158

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NUCLEAR-FREE PUSH, VICTORIAN N-SHIP BAN STIR CONTROVERSY

Labor Party Divisions

Canberra THE AUSTRALIAN in English 14 Jun 82 p 1

[Article by Russel Schneider]

[Excerpts]

Clear divisions emerged within the ALP at the weekend over controversial questions of nuclear power.

The splits open up the possibility of at least two early elections — in South Australia and federally.

In Sydney, the NSW branch of the party delivered a strong rebuff to Victoria's Premier, Mr Cain, when it overwhelmingly rejected a left-wing call for the party to oppose the berthing in Australian ports of warships carrying nuclear weapons.

But in South Australia, moderates suffered a number of defeats, and the party convention adopted a report recommending a ban on nuclear-powered vessels.

The issue is now certain to come to a head at the party's national conference in Canberra next month, with the Left trying to have the Victorian ban made official national policy.

If this happens, the Prime Minister, Mr Fraser, is likely to call a snap double dissolution and run an election campaign on the defence issue.

Despite the strong wins by moderates in NSW, the party's decisions at the conferences open up the prospect of the South Australian Premier, Mr Tonkin, calling a snap poll, followed by a federal election — both on the nuclear power issue.

Hayden Policy

Canberra THE AUSTRALIAN in English 15 Jun 82 p 1

[Excerpt]

THE Leader of the Opposition, Mr Hayden, was rebuffed by the Queensland branch of the ALP yesterday when he opposed a move to declare Queensland a nuclear-free State.

Mr Hayden pointed out a federal Labor pledge to accept the porting of nuclear-powered navy ships.

The Queensland ALP conference, meeting in Brisbane, voted to support declaring the State nuclear-free.

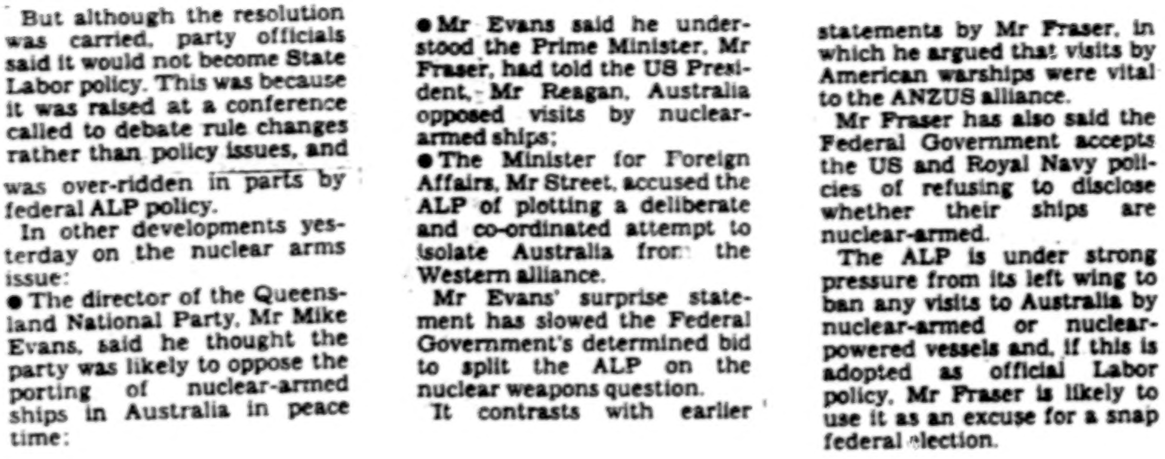
The resolution was moved by the deputy Leader of the State Opposition, Mr D'Arcy, and supported by the socialist left-old guard faction.

Mr Hayden affirmed a federal Labor commitment, made in 1976, to accept nuclear-powered naval vessels as long as they were not involved in the stockpiling of nuclear arms or in nuclear hostilities.

He said supporters of the motion were wasting their time if they thought it would preclude visits by nuclear-powered naval vessels. State governments did not have the constitutional power to restrict or regulate the movement of these vessels.

Mr Hayden was backed by the Leader of the State Opposition, Mr Casey, the State party president, Dr Denis Murphy, and the State secretary of the Australian Workers Union, Mr Errol Hodder.

The Queensland ALP decision follows a similar declaration by the Labor Government in Victoria and a ban by South Australia's State Labor branch on visiting nuclear-powered ships.



But although the resolution was carried, party officials said it would not become State Labor policy. This was because it was raised at a conference called to debate rule changes rather than policy issues, and was over-ridden in parts by federal ALP policy.

In other developments yesterday on the nuclear arms issue:

- The director of the Queensland National Party, Mr Mike Evans, said he thought the party was likely to oppose the porting of nuclear-armed ships in Australia in peace time:
- Mr Evans said he understood the Prime Minister, Mr Fraser, had told the US President, Mr Reagan, Australia opposed visits by nuclear-armed ships;
- The Minister for Foreign Affairs, Mr Street, accused the ALP of plotting a deliberate and co-ordinated attempt to isolate Australia from the Western alliance.

Mr Evans' surprise statement has slowed the Federal Government's determined bid to split the ALP on the nuclear weapons question.

It contrasts with earlier statements by Mr Fraser, in which he argued that visits by American warships were vital to the ANZUS alliance.

Mr Fraser has also said the Federal Government accepts the US and Royal Navy policies of refusing to disclose whether their ships are nuclear-armed.

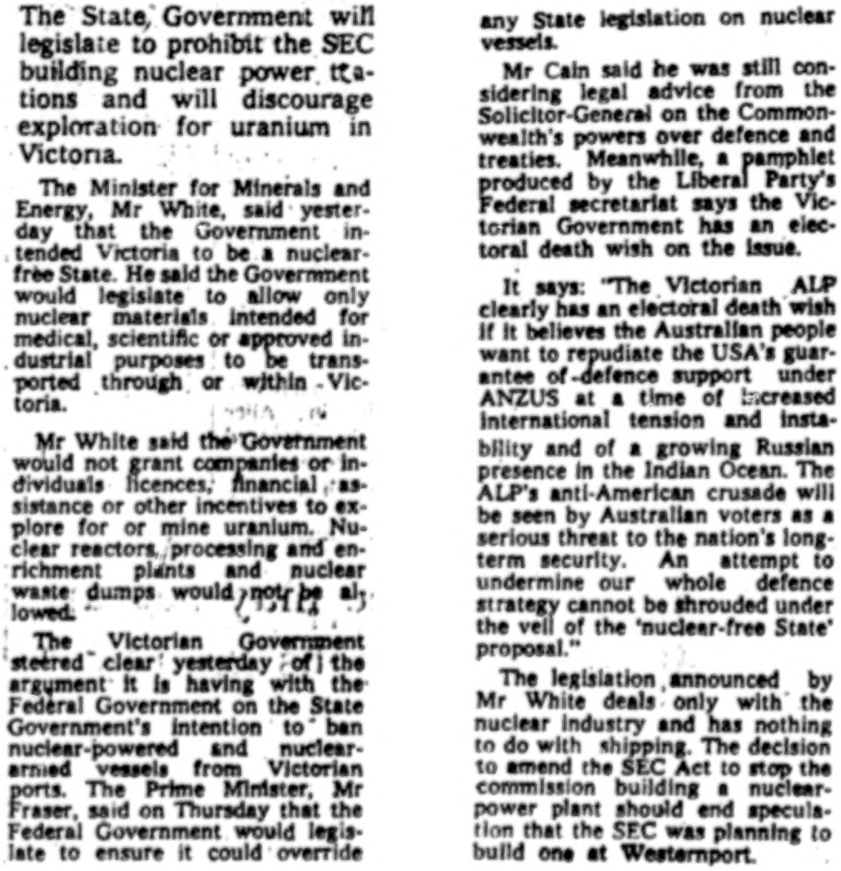
The ALP is under strong pressure from its left wing to ban any visits to Australia by nuclear-armed or nuclear-powered vessels and, if this is adopted as official Labor policy, Mr Fraser is likely to use it as an excuse for a snap federal election.

Victorian Nuclear Prohibitions

Melbourne THE AGE in English 12 Jun 82 p 3

[Article by Bill Birnbauer]

[Excerpt]



The State Government will legislate to prohibit the SEC building nuclear power stations and will discourage exploration for uranium in Victoria.

The Minister for Minerals and Energy, Mr White, said yesterday that the Government intended Victoria to be a nuclear-free State. He said the Government would legislate to allow only nuclear materials intended for medical, scientific or approved industrial purposes to be transported through or within Victoria.

Mr White said the Government would not grant companies or individuals licences, financial assistance or other incentives to explore for or mine uranium. Nuclear reactors, processing and enrichment plants and nuclear waste dumps would not be allowed.

The Victorian Government steered clear yesterday of the argument it is having with the Federal Government on the State Government's intention to ban nuclear-powered and nuclear-armed vessels from Victorian ports. The Prime Minister, Mr Fraser, said on Thursday that the Federal Government would legislate to ensure it could override any State legislation on nuclear vessels.

Mr Cain said he was still considering legal advice from the Solicitor-General on the Commonwealth's powers over defence and treaties. Meanwhile, a pamphlet produced by the Liberal Party's Federal secretariat says the Victorian Government has an electoral death wish on the issue.

It says: "The Victorian ALP clearly has an electoral death wish if it believes the Australian people want to repudiate the USA's guarantee of defence support under ANZUS at a time of increased international tension and instability and of a growing Russian presence in the Indian Ocean. The ALP's anti-American crusade will be seen by Australian voters as a serious threat to the nation's long-term security. An attempt to undermine our whole defence strategy cannot be shrouded under the veil of the 'nuclear-free State' proposal."

The legislation announced by Mr White deals only with the nuclear industry and has nothing to do with shipping. The decision to amend the SEC Act to stop the commission building a nuclear-power plant should end speculation that the SEC was planning to build one at Westernport.

Nuclear-Ship Ban Retraction

Melbourne THE AGE in English 17 Jun 82 p 1

[Article by Philip Chubb]

[Text]

The Victorian Government has bowed to Commonwealth powers on the issue of nuclear ships entering the State's ports.

The Premier, Mr Cain, said yesterday that legal advice received by him indicated that if the Federal Government went ahead with its plan to legislate, this would override any action that could be takeh by the State.

Asked if Victoria would initiate a ban pending Federal legislation, Mr Cain said: "All I can say is that I hope the Prime Minister will, as a second leg concurrent with his designed legislation, convey the wishes of the Victorian Government to the appropriate Governments of other countries . . . it's a matter for the Prime Minister. He has now taken this over, as it were."

Mr Cain had previously made several statements flatly asserting that nuclear-armed or nuclear-powered vessels would be banned from Victoria's ports.

He said yesterday: "In implementing the policy I have done what I believe is the proper thing—conveyed the wishes of the Victorian Government to the national Government and I believe it should now act accordingly."

He said he did not believe that "any nation with which this country is on friendly terms would wish to be involved" in acting against the Victorian Government's wishes. He said nuclear ships were not wanted in Victorian waters.

He would not make direct approaches to overseas Governments. "The line that I followed in contacting the Prime Minister was the correct one," he said.

The issue has caused a great deal of conflict within the ALP. Asked about the national aspect of the policy, Mr Cain said: "All I can do is repeat what I said before. My job is to implement the policy of the porty."

Mr Cain also attacked the Prime Minister's handling of the issue. He said Mr Fraser had shown "a degree of public dishonesty and disregard for the truth which is even remarkable for him. Mr Fraser now says that the Federal Government will introduce legislation to ensure the visits of these ships. He has never before sought to do so despite similar attitudes to Victoria's by New South Wales and South Australia".

He said that if the Federel Government legislated it "must accept full responsibility for the safety of the people of this State".

Mr Cain said that it had never been Victoria's intention to intrude on the Federal Government's responsibilities for defence and foreign affairs. "What we are insisting upon is that foreign Governments which operate nuclear-powered or nuclear-armed ships pay regard to the concerns of the Victorian Government and Victorian people, as they have in the past in the case of expressions of similar concern in other States," he said.

Mr Cain said Victoria would go ahead and legislate to ban nuclear industry in Victoria. "The Government presently recognises the right of States to act in this area," he said.

"When announcing the results of the review of Commonwealth functions on 30 April 1981, the Commonwealth Government declared that responsibility for nuclear industry should rest with the States, subject to a Commonwealth overview."

Mr Cain said that if the Federal Government now claimed any conflict, it should say so immediately. He said: "Victoria will carry a fight on the exclusion of nuclear industry from Victoria right up to the Prime Minister. He will be challenging not only the right of a State Government to act in this sphere, but the right of a majority of Victorians, as expressed in the last election campaign, to seek to live in an environment free of nuclear hazards."

SA Uranium Mine Go-Ahead

Canberra THE WEEKEND AUSTRALIAN in English 19-20 Jun 82 p 1

[Article by Peter Blunden]

[Text]

THE huge Roxby Downs uranium, copper and gold project will go ahead following a dramatic vote in the South Australian Parliament yesterday which has rocked the Labor movement and guarantees a stormy ALP federal conference on the uranium issue in Canberra next month.

The man whose vote tilted the scales 11-10 in favor of the venture was veteran Labor MP Mr Norman Foster, who resigned from the party on Thursday after alleging harassment and standover tactics by his colleagues.

Rather than boycott yesterday's special parliamentary sitting, as he first intended, Mr Foster turned up for the vote after having been persuaded by 17 federal Labor MPs to defy the State party's opposition to uranium mining, and support the Roxby Downs Indenture Bill.

He defiantly crossed the chamber and voted against his estranged Labor colleagues and the Australian Democrats.

His vote reversed the 11-10 decision to ban the project reached on Thursday morning when Mr Foster opposed the bill.

After the vote, Mr Foster told reporters that 17 federal Labor MPs had telephoned him before the emergency parliamentary session, urging him to support the bill.

This was despite the rigid anti-uranium posture of the South Australian ALP and the Australian Democrats, whose opposition had seemingly ensured Roxby Downs would be indefinitely deferred.

Mr Foster, an ALP member for nearly 40 years, later said he believed there was "a fair intimation" the ALP conference in Canberra next month would change the direction of its uranium policy.

"Politically, it is inevitable for them to change," he said.

His turnabout on the issue will enable Roxby Downs to emerge as one of the nation's biggest mining projects.

A jubilant Premier, Mr Tonkin, said last night: "I am delighted beyond all measure. This is a great day for all South Australians.

"In simple terms of jobs, money and security, it adds a whole new dimension to our economy and to our future.

"I have always believed this project is of such paramount importance for South Australia, it is above political considerations.

"Mr Foster acted with great courage . . ."

Mr Foster's decision to support Roxby Downs came only 36 hours after he voted along party lines to torpedo the project.

It also came 24 hours after he made public his resignation from the ALP, alleging harassment of himself and his family by ALP colleagues.

Mr Foster was the centre of a storm after revealing on Monday at the State ALP conference he was considering breaking Caucus solidarity and voting for the bill.

He said that shortly before the first vote, both he and his family were threatened with death if the bill passed. He suspected an ALP member was connected with the threat.

He was further disturbed by heckling from Upper House colleagues during his two-hour speech on the issue before the first vote.

Yesterday, as he crossed the floor, he turned to Labor MPs and said: "I supported you the other night, and you rubbished me."

At yesterday's emergency sitting, the President of the Legislative Council, Mr Whyte, was expected to exercise his casting vote to break the 10-10 deadlock had Mr Foster stayed away. In the event, Mr Whyte's tie-breaker was not required.

Roxby Downs is believed to rank among the world's biggest concentrations of minerals to be discovered in 50 years.

NEW TOWN

Preliminary estimates indicate there could be as much as 750 million tonnes of ore, comparable with Mount Isa or the Zambian copper belt.

Early estimates suggest up to 150,000 tonnes of copper being mined a year.

The joint venture partners, Western Mining Corporation and BP Australia, are expected to commit $1000 million to construction. The go-ahead will lead to a new town of up to 9000 people near the mine site.

Had the bill been rejected, the partners — who already have poured more than $50 million into the project — would have shut it down.

It took months of negotiations between the partners and the State Government to hammer out a mutually acceptable bill.

The partners are expected to complete their studies on the project by the end of 1984 and, under the agreement, are committed to spending another $50 million on the feasibility stage.

The companies are expected to commit themselves to mining by no later than 1987, unless it is not economic for them to do so.

In such circumstances, the bill gives them the right to postpone their obligations for successive two-year periods, subject to the overriding right of the minister of mines and energy to refer the question of economic impracticability to an independent expert.

CSO: 5100/7540

PORT AREA SAFETY IN NUCLEAR-SHIP ACCIDENTS MAPPED

AEC-Defense Department Paper

Canberra THE WEEKEND AUSTRALIAN in English 12-13 Jun 82 p 2

[Article by Peter Terry]

[Text]

CONTINGENCY plans have been drawn up for the emergency evacuation of Australia's main ports in the event of an accident or sabotage incident on board a visiting nuclear-powered warship.

This has been done even though the chance of a serious nuclear accident is classed as "extremely remote".

The plans are the result of a joint investigation by the Department of Defence and the Australian Atomic Energy Commission into the risks of allowing the ships to dock in Australia.

The investigation found that there was no chance whatever of an explosion like that of an atomic bomb.

Their report is a classified document — a copy of which was handed to *The Australian* yesterday.

Its release follows the row between the Federal and Victorian Governments over the State Labor Government's decision to declare a nuclear-free zone and ban nuclear vessels.

The report points out that preparations should be ready to cope with the worst possible incident.

That would mean the "urgent and immediate" evacuation of anyone within 600m of the stricken ship, and the possible evacuation of people within a kilometre.

Milk produced within 10km from the ship might also have to be withheld until it was shown to be free from radio-active contamination.

The report said open food markets near the port would have to be closed.

The worst possible accident, in which there were no outside influences, would be a melt-down of the ship's nuclear core.

"The radio-active products released in this manner would be almost completely confined within the reactor containment and hull of the ship," said the report.

"However, there would also be a build-up of pressure within the containment from the high-pressure, high-temperature reactor cooling water escaping from the end of the broken pipes, and flashing into steam.

"The resultant increase in internal hull pressure would cause a small fraction of the fission products to leak slowly out of the hull into the atmosphere over a period of many hours.

"This core melt-down accident, sometimes referred to as a maximum credible accident, has been calculated to have a probability of occurrence of less than 1 in 10,000 per reactor per year."

But there were other accidents that could occur, such as that suffered by a warship if it were involved in a high-speed collision, said the report.

Such a collision could be enough to rupture the containment and reactor area. But the report said the chance of this happening was very unlikely, as any collisions in port were always at low-speeds.

"Therefore the risk is greatest in the approaches to ports where shipping lanes converge, and where there are often densely populated areas nearby on shore," the report said.

"The conditions of entry proposed for visits of nuclear warships include the control of shipping movements in Australian waters to prevent such an accident from occurring near the coastline."

It was conceivable that weapons on board the ship could explode and damage the reactor, but existing safety measures made this possibility extremely remote.

"The efficiency of these arrangements has been demonstrated over the decades by the lack of any known explosion in peacetime in the magazine of a warship in the fleet of any of the major powers."

Potentially more serious than a core melt-down would be an act of sabotage.

But such acts could be prevented by strict security measures.

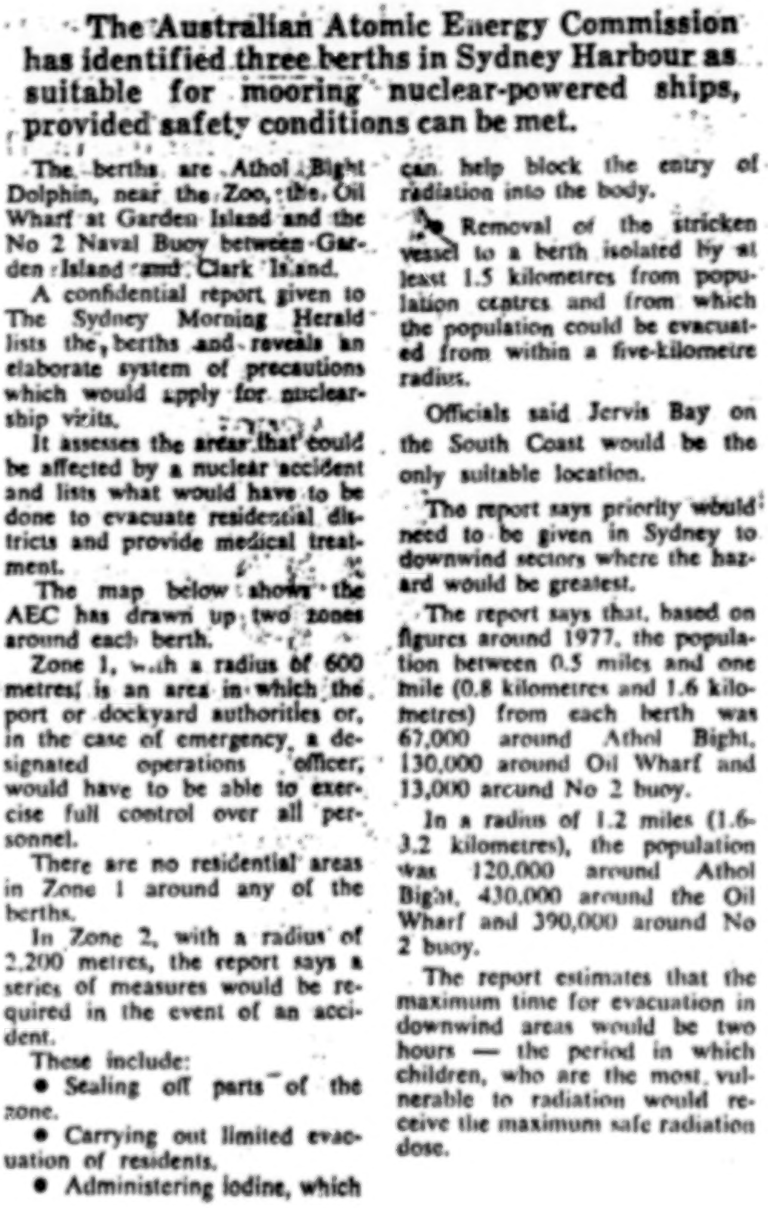
For practical purposes, the fact that each nuclear warship only spent an average of four days in an Australian port made the chances of accidents occurring very slim.

Sydney Evacuation Plan

Sydney THE SYDNEY MORNING HERALD in English 12 Jun 82 pp 1, 4

[Article by Mike Steketee and Paul Kelly]

[Text]



The Australian Atomic Energy Commission has identified three berths in Sydney Harbour as suitable for mooring nuclear-powered ships, provided safety conditions can be met.

The berths are Athol Bight Dolphin, near the Zoo, the Oil Wharf at Garden Island and the No 2 Naval Buoy between Garden Island and Clark Island.

A confidential report given to The Sydney Morning Herald lists the berths and reveals an elaborate system of precautions which would apply for nuclear-ship visits.

It assesses the areas that could be affected by a nuclear accident and lists what would have to be done to evacuate residential districts and provide medical treatment.

The map below shows the AEC has drawn up two zones around each berth.

Zone 1, with a radius of 600 metres, is an area in which the port or dockyard authorities or, in the case of emergency, a designated operations officer, would have to be able to exercise full control over all personnel.

There are no residential areas in Zone 1 around any of the berths.

In Zone 2, with a radius of 2,200 metres, the report says a series of measures would be required in the event of an accident.

These include:

- Sealing off parts of the zone.
- Carrying out limited evacuation of residents.
- Administering iodine, which can help block the entry of radiation into the body.
- Removal of the stricken vessel to a berth isolated by at least 1.5 kilometres from population centres and from which the population could be evacuated from within a five-kilometre radius.

Officials said Jervis Bay on the South Coast would be the only suitable location.

The report says priority would need to be given in Sydney to downwind sectors where the hazard would be greatest.

The report says that, based on figures around 1977, the population between 0.5 miles and one mile (0.8 kilometres and 1.6 kilometres) from each berth was 67,000 around Athol Bight, 130,000 around Oil Wharf and 13,000 around No 2 buoy.

In a radius of 1.2 miles (1.6-3.2 kilometres), the population was 120,000 around Athol Bight, 430,000 around the Oil Wharf and 390,000 around No 2 buoy.

The report estimates that the maximum time for evacuation in downwind areas would be two hours — the period in which children, who are the most vulnerable to radiation would receive the maximum safe radiation dose.

According to Commonwealth sources, the Defence Department used the AEC to prepare the report in 1977 in an attempt to persuade NSW to drop its ban on nuclear-powered ships using the State's ports.

The sources said that the Prime Minister, Mr Fraser, far from being selective in his indignation by attacking the Victorian Government this week for declaring the State's nuclear-free zone, has put a major effort into persuading NSW to drop its policy against the visit of nuclear-powered ships.

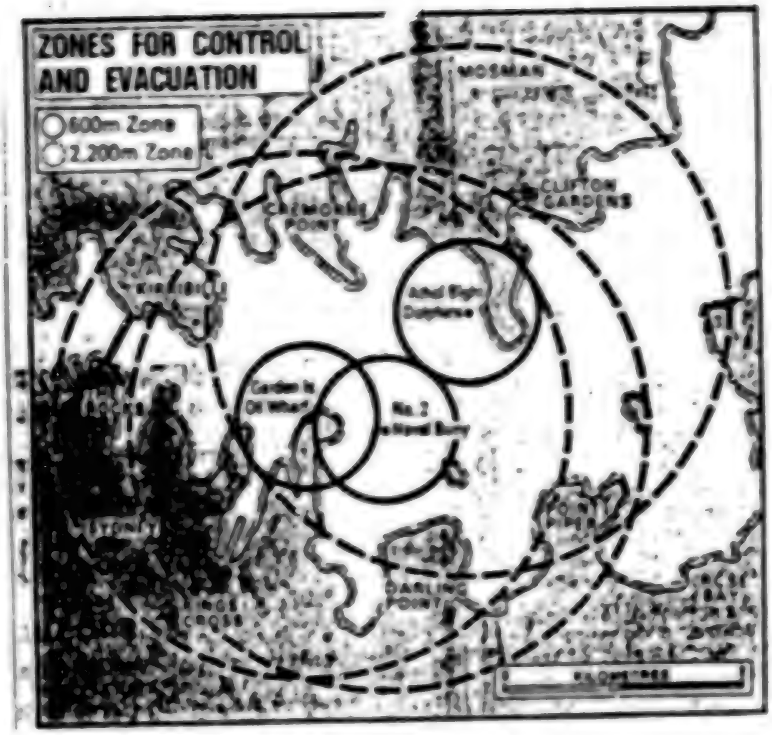
It appears the document may have had the opposite effect, reinforcing NSW policy because of the implications for safety, particularly in Sydney Harbour, of nuclear-powered vessels.

State officials said that, through a number of decisions in recent years, the State Government had extended its policy to refusing to co-operate with the Commonwealth to develop a joint system of regulation of the nuclear industry.

State Cabinet also had decided several years ago against granting any licences to explore for uranium in NSW.

The Premier, Mr Wran, acknowledged yesterday the right of the Commonwealth to allow nuclear-powered ships into the State's ports.

But in brief comments following a speech, he said the Commonwealth also would have to take into account such issues as evacuation and potential tourism.



State officials acknowledge that the likelihood of an accident involving a nuclear vessel is remote. But they said the State's emergency services could not be relied on to put into effect large-scale evacuation and other measures.

In addition, there would be doubts about adequate security around the ships moored in a harbour as busy as Sydney's.

The document also reveals that the Federal Government has developed conditions for visits by a nuclear-powered ship.

These are:

- A visit would be for crew rest and recreation and not for the handling of fuel or repairs to reactors in the ship.
- The vessel could move only during daylight hours, when the visibility was at least 1,200 metres.
- The vessel would have to be moved to a remote anchorage within 24 hours of an accident.
- Tugs or other means of moving the ship would have to be available within one hour of request.
- An approved monitoring and safety organisation would have to exist in the port being visited.

CSO: 5100/7541

NORTHERN TERRITORY BACK IN RACE FOR U-ENRICHMENT PLANT

Sydney THE SYDNEY MORNING HERALD in English 18 Jun 82 p 20

[Article by Brian Johnstone]

[Text]

DARWIN. — The Northern Territory Government is to renew its bid to establish Australia's first uranium enrichment plant.

The Chief Minister, Mr Everingham, said yesterday Cabinet had directed Territory Mines and Energy Minister, Mr Ian Tuxworth, to begin talks with the Federal Government on the issue.

Mr Everingham said all the other contenders for a uranium industry had been "knocked out of the running."

The Roxby Downs Indenture Bill had been defeated in the South Australian Parliament and the Victorian Premier, Mr Cain, had announced a proposal to declare the State a nuclear free zone, he said.

The Queensland and South Australian Labor Parties followed Victoria's lead at their annual conferences last weekend.

Both States had keenly sought the establishment of a uranium enrichment plant, Mr Everingham said.

A multi-million-dollar feasibility study into the establishment of such a plant in the Iron Triangle region of South Australia is due to conclude soon.

Among the groups carrying out the study are the partners in the proposed Roxby Downs venture, Western Mining Corporation Holdings Ltd and the British Petroleum Australia group.

The Northern Territory Government discussed the possibility of a uranium enrichment plant in 1980 when it studied the feasibility of a nuclear power station in Darwin.

It had appointed an American nuclear energy development expert, Mr Richard Koerner, as an energy consultant and Mr Everingham had made an overseas study tour of nuclear installations.

However, it was decided a nuclear power station would be too costly.

Mr Everingham said that, with the Victorian Government and one of the major political parties in South Australia and Queensland adopting an anti-nuclear line, the Territory was now "the only logical place for this industry, especially as we have the vast majority of the free world's uranium reserves.

"It is only fair that Territorians and should profit economically and socially by the establishment of a uranium enrichment plant," he said.

CSO: 5100/7541

ACHIEVEMENTS OF DACCA ATOMIC ENERGY CENTER NOTED

Dacca THE BANGLADESH OBSERVER in English 17 Jul 82 p 5

[Text]

Heavy water production in the country during the last three years from 1980 to June 1982 was far below the capacity in all the three plants in the country, reports UNI.

The three heavy water plants at Tuticorin, Baroda and Nangal actually produced in the last three years only 27.18 tonnes, 50.57 tonnes and 17.68 tonnes of heavy water, respectively.

The installed capacity of the plants are: Tuticorin 71.20 tonnes, Baroda 67.20 tonnes and Nangal 14.10 tonnes, according to official sources.

The Talcher Heavy Water Plant with a capacity of 62.7 tonnes is in the process of being commissioned. The first phase of enrichment is expected to be realised in September 1982 if synthesis gas and steam are available in requisite quantities, the sources said.

The country has imported so far 19.980 tonnes of heavy water costing Rs 5.23 crore in 1982. The respective figures for 1980 and 1981 wrere 41 tonnes costing Rs 8.17 crore and 40 tonnes valuing Rs 9.26 crores.

The cumulative demand for heavy water to meet the requirements for the nuclear power programme in the country will be 426 tonnes by March 1983, which is expected to rise 1550 tonnes by March 1988.

Meanwhile, the date of commissing of the Madras Atomic Power Project remained uncertain for want of heavy water. It is stated that the plant requires 250 tonnes of heavy water initially for commissioning.

Besides, the functioning of the existing Nuclear Power Stations at Tarapur and Rajasthan is also far from satisfactory. While the Tarapur is functioning at a reduced capacity to stretch the available enriched uranium, the two units of Rajasthan Atomic Power Plant are plagued by frequent closers.

CSO: 5100/7129

PROBLEMS IN PRODUCTION OF HEAVY WATER DISCUSSED

Bombay THE TIMES OF INDIA in English 21 Jul 82 p 8

[Article by Jairam Ramesh]

[Text] India's entire nuclear energy programme is in jeopardy because heavy water continues to be unavailable. Heavy water is used both as a coolant and moderator in natural Uranium-fuelled reactors of the type that have been installed at Kota and Kalpakkam and that are proposed for installation at Narora and Karapar. These reactors not only generate power but also produce Plutonium needed for the fast breeder reactors.

The production of heavy water is an extraordinarily complex process. This is so because the initial concentration of Deuterium in the raw material processed is extremely low and a 7000-fold concentration has to be brought about to obtain reactor-grade heavy water. Compounding the complexity is the fact that the in-process inventory in a heavy water plant relative to the production rate is large compared with all other chemical process industries. As a result, heavy water plants are particularly slow to come to equilibrium following a disturbance, however slight, from steady-state operation.

The earliest process to be developed for making heavy water was in Norway in the 1940s and involved the electrolysis of ordinary water. This technique has been adopted in the Nangal heavy water plant that was commissioned in 1962. This process, however, is enormously power-intensive and has long become obsolete.

In the 1950s, parallel developments were taking place in Canada and France to come up with more efficient alternatives to the electrolysis method. The principle behind these developments was the exchange of Deuterium between two different hydrogenous materials, one a gas and the other a liquid. The French developed the Ammonia-Hydrogen process which involved Deuterium exchange between the Ammonia gas and water, while in the Canadian process Hydrogen Sulphide gas took the place of Ammonia.

Testing Ground

In the mid-sixties, India examined both these processes and decided that it would commercialise both of them. But since a number of fertiliser plants were also being planned for at the same time, the French process found greater acceptance. This was as it ought to have been. For after all, Ammonia plants are nothing but plants that manufacture Hydrogen. Thus, three heavy water plants based on this process were planned at Baroda to be linked to GSFC's Ammonia plant and at Talcher to be linked to FCI's Ammonia plant. Another heavy water plant was sanctioned for Kota and this was to be based on the Canadian Hydrogen Sulphide process.

It is important to note here in the light of what went wrong subsequently, that India was the first, and so far only country, to set up commercial-size plants based on the Ammonia-Hydrogen exchange process. It still is the only country in the world where such plants are operating. The only experience the French consultants for the Baroda and Tuticorin plants had with this process was in a 20-tonne per year pilot plant (the West German consultants for the Talcher Plant did not have even this).

In many ways therefore Kota became a testing ground for the commercial viability of this process. The situation with the other process of the Canadians was only slightly better. A commercial 190-tonne-per-year plant based on the Hydrogen-Sulphide process had been commissioned in 1952 in the U.S. When this plant was replicated elsewhere it failed. By 1970 a 400-tonne-per-year plant had been commissioned in Canada. But there was no operating experience for a long time. Thus India took a calculated risk but hedged its bets by going in for both these relatively untested processes at the same time.

Why have the heavy water plants failed to perform as expected? The performance of the Ammonia-based heavy water plant is extraordinarily sensitive to even the minutest variation in the performance of the Ammonia plant itself. A two to three hour breakdown in the Ammonia plant caused, for example, by a voltage dip in power supply even for a fraction of a second, will result in a four to five day stoppage in the heavy water plant.

Ammonia Plants

Unfortunately, the Ammonia plants to which the heavy water plants are linked have themselves been facing all kinds of problems. The coal-based Ammonia plant at Talcher was commissioned in 1979, almost five years after it was originally expected to go on stream. Since then, the plant has been a disaster and has not been able to function at more than 10 percent of capacity. The plant has had almost no power supply from the grid. It is also clear by now that unless an additional boiler and gasifier is installed, the Talcher Ammonia plant is not going to have an adequate supply of steam. Unless funds for this and for a captive power plant are sanctioned immediately, the Talcher plant may as well be written off.

On an annual basis, SPIC's capacity utilisation has touched 70 to 75 percent. But from the heavy water plant's point of view, this is not of much use: for what matters more is continuous and steady production. But because of severe power problems, continuous production for any reasonable length of time has been almost impossible. For the first time since commissioning in 1975, 100 days of continuous production were recorded only early this year.

There are two ways by which the woes of the Tuticorin plant can be mitigated. First, the SPIC Ammonia plant, the heavy water plant and other industries in Tuticorin can pool their resources together and set up a 75-100 MW captive power plant so that they can be free from grid problems. This pooling is essential for it will be very uneconomic for any of these units to go in for captive stations on their own. Second, an additional stream of Ammonia must be installed. Such a second stream will not only fulfill SPIC's own requirements (SPIC today imports Ammonia) but also serve as a standby to the existing stream.

In fact, this is the main advantage of Baroda for the Ammonia plant of GSFC there consists of two streams. Most problems that have plagued the Baroda heavy water plant have little to do with synthesis gas supply. The plant was all set to go into full-scale production when in December 1977 it was ripped apart by an explosion which caused a shut down of the plant for over two years. The explosion was caused by the failure of a small part made of forged steel into which Ammonia at very high pressure was injected. This part was installed at the suggestion of the French consultants in view of the fact that refrigeration in the plant was inadequate. Subsequent tests conducted by Indian engineers established that the design of this block was faulty and workmanship poor. It was a small part, but a critical one. The country paid the price for French shoddiness and DAE's negligence.

Kota Difficulties

The Kota plant based on the Hydrogen-Sulphide process has suffered on two counts: it started off with Canadian collaboration but midway through, the Canadians withdrew as a mark of protest against the peaceful nuclear explosion at Pokhran. This created considerable problems for the plant. The Canadian company responsible for design and engineering just walked off with all the drawings. Designing had to begin all over again in 1975. This has been done by now and the plant is ready. What has however further delayed start-up is the fact that the Kota heavy water plant gets its supply on steam for process heat from the main RAPP reactor units. As is well know, RAPP itself has frequently stopped functioning. The reason for this requires a separate and detailed study. Suffice to say here that since interruptions in the supply of steam to the heavy water plant have become endemic, it might be worthwhile to spend another Rs. 30 crores to install boilers at the heavy water plant itself.

So far the under-performance of heavy water plants has been discussed in the context of the technologies adopted for production. Process problems have been compounded by management mistakes. DAE has been the researcher, engineer, contractor and manager all rolled into one. This should never have happened because the department does not have the capability for detailed process engineering and project management like, for instance, Engineers India Ltd. (EIL). There has been a belated recognition of this lacuna and DAE has asked EIL to do the engineering and management for the 200-tonne-per-year heavy water plant based on the Hydrogen-Sulphide process at Manuguru (AP). The difficulties EIL is having in obtaining the basic process package from DAE is proof enough of DAE's limitations in this regard.

Finally, heavy water plants cannot be run as departmental undertakings. They need to be formed into a separate public sector corporation (as has been done in the case of Uranium mining, rare earths processing and electronics). This will give them clear identity both commercially and managerially and also help in establishing some amount of badly needed public accountability.

CSO: 5100/7126

STATISTICS ON HEAVY WATER PRODUCTION SINCE 1980 GIVEN

New Delhi PATRIOT in English 25 Jul 82 p 5

[Text] The attention of Bangladesh Atomic Energy Commission (BAEC) has been drawn to an article entitled 'Research for better production' by Kazi Zillur Rahman published in The Bangladesh Observer dated July 7, 1982.

The writer in dealing with the total research of the country like ours cannot afford and anomalies which stand in the way of realising the fruits of national research. [as published]

It is true that a poor country like ours cannot afford a huge amount of expenditure on research unless this is fruitful.

BAEC is an autonomous organisation entrusted with the task of carrying out research and development (R&D) programme for peaceful uses of atomic energy in agriculture, medicine, industry, hydrology, etc., to develop technological infrastructure for nuclear power generation, electronics, material sciences, etc. and also to discharge international obligation thereto.

The Atomic Energy Centre, Dacca (AECD) was established in 1964 and is one of the pioneering research laboratories of the BADC which came into being in 1973. Since the beginning, our endeavour has been to build up scientific manpower through training and to formulate R&D programmes in accordance with the national policies of the government. The R&D programmes in modern science like atomic energy are no doubt expensive everywhere in the world. In that context, the AECD is much less expensive as compared to similar organisations elsewhere and is undoubtedly less expensive than other research laboratories of Bangladesh such as BARI, BRRI etc.

As regards the achievements of AECD, Mr Rahman has mentioned only one area of our contribution, namely the "irradiation works." It may be noted here that most of the peaceful uses of atomic energy involve some kind of irradiation e.g. use of ionizing radiations and radioisotopes. But the R&D work is more general in nature. Some of the significant achievements of AECD are given below:

1) The Agriculture Division of AECD (1964-1975) developed a number of high yielding varieties (by irradiation techniques) such as rice (Iratom-24), jute (Atompat-38) etc. The Division became Institute of Nuclear Agriculture (INA), Mymensingh where much more extensive R&D work in agriculture has been carried out with many useful results. As a recognition of these achievements, INA was given Presidential Award in Agriculture in 1981. The Institute has now been transferred to the Ministry of Agriculture.

2) The Radiation Sterilization Techniques initially developed in the AECD are being used for the sterilization of medical products and appliances in Bangladesh and in food preservation in pilot scale.

3) The National Radiation Protection services including calibration and survey of X-ray installations, issuance of permits for procurement of radioisotopes, personnel monitoring services etc. in and outside BAEC are being provided by the AECD.

4) Sophisticated Nuclear Analytical Techniques developed in AECD are being used for material analysis required by different organisations of Bangladesh.

5) In addition to development of electronics equipment, the repair and maintenance services of various sophisticated electronics equipment in and outside BAEC are being constantly offered by AECD.

6) The application of computer science including educational training and services in Bangladesh has its origin in the AECD with the installation of a computer in 1964.

7) The radiography services for non-destructive testing of welded joints of various industrial installations of Bangladesh are being offered by AECD.

8) Material Science Programme has been undertaken to foster the use of local raw materials for preparation of hard and soft magnets, extensively used in electronics equipment.

9) Some of the Science Departments of Dacca University regularly use the AEDC laboratories, the library and workshop facilities for their research in close collaboration with the AECD Scientists.

10) The AECD in general provides basic training opportunities in modern science and its application, using the Van-de-Graaff Accelerator, the irradiation source and other research facilities of the AECD.

A large number of University students have been carrying out their research works leading to M. Sc. and Ph. D for the last 17 years. Post-graduate course in Radiation Physics for DMRD, DMRT, FCPP etc are being conducted on regular basis in the AECD for a long time. In addition, the AECD had the opportunity to organise a number of national and international seminars/symposia in various fields of science and technology in order to keep abreast the scientific community of Bangladesh with the latest developments in their respective fields.

BAEC has, in addition, a number of nuclear medical centres in Dacc, Chittagong, Rajshahi and Sylhet which are engaged in diagnosis and treatment of complicated diseases in thyroid gland, kidney, liver, spleen and brain mostly using radioisotopes. On an average, four to five thousand patients are being treated annually in each of these Centres, mostly free of cost.

Amongst other activities, BAEC is now setting up a Research Reactor to Savar to produce radioisotopes and develop necessary technological infrastructure to introduce nuclear power in the country.

We agree with the contention of Kazi Zillur Rahman to give priority to applied research in a country like Bangladesh. As far as the BAEC is concerned, it is mostly engaged in applied research programmes relevant to the socio-economic development of the country and in fulfilling these objectives it is also carrying out some basic research necessary for the successful implementation of the applied programmes.

Jamat Ali
Public Relations Officer
Bangladesh Atomic Energy Commission

CSO: 5100/7128

REPORTER TELLS PROBLEMS OF RAJASTHAN NUCLEAR PLANT

Bombay THE TIMES OF INDIA in English 18 Jul 82 p 3

[Text] BOMBAY, July 17

THE Rajasthan Atomic Power Station (RAPS) at Rana Pratap Sagar, beset with chronic technical snags, seems to have become a drain on the department of atomic energy's money, material and manpower.

The revenue loss incurred for each day of closure of the station has been worked out at Rs. 29.4 lakhs, even when the generation of power is only 40 per cent of the installed capacity. The daily loss can be colossal if the costing is done on a more realistic basis, taking into account the total investment, annual operational costs and capital expenditure and the total installed capacity.

Both the units of the RAPS had been on outage for 255 times in the last ten years which means that once in every 14 days there was a shut down. The second unit, within its nine months of existence, had been shut down for 22 times. Over 1,200 engineering changes have been effected in the plant till the end of last year. RAPS-I, have logged about 1,300 effective full power days of operation, shows that for almost every day of full power operation there was a design change.

Even accepting the statistics provided by the DAE on face value, a plant with an initial investment of over Rs. 175 crores and an annual operational and capital expenditure of Rs. 46 crores (for 1981-82), operating at 40 per cent capacity factor, that too only for 60 per cent of the available time, cannot be economically viable, it is pointed out.

The DAE, in its 1982-83 performance budget, describes the economics of nuclear power as follows: "At current prices, a nuclear power station of about 470 MW capacity, located beyond 1,000 km of the pithead of coal mines and operating at 75 per cent capacity factor is economically competitive with a thermal power station of comparable capacity and operating at 60 per cent capacity factor, if located at the same site".

It follows that the RAPS, never having operated at 75 per cent capacity factor, is not economically competitive with a thermal power station, if at all one chooses to defend nuclear power vis-a-vis thermal power.

The costing of power produced at RAPS seems to vary. While the performance budget of the DAE claims that the unit price of power worked out at 20 paise, a senior engineer of the Power Project Engineering Division of the DAE, in a paper specifies the unit energy cost at RAPS for 1981-82 as 27.8 paise. No doubt, nuclear energy can be made as cheap as that it can be supplied to consumers even without metering their consumption, but this would make any sense only when the energy is produced on a sustained basis.

The latest problem with unit I has been that of leaks in end shield. First noticed in September last, the authorities hope to repair the unit by September next. Special procedures to repair the leak are being developed with necessary tooling and the experts consider this to be one of the most challenging tasks ever faced by the nuclear engineers here. After all the necessary repairs, it is believed that the unit's capacity may be further reduced. Sources attribute the problems to the Canadians who left the project mid-way after India exploded a bomb in 1974.

Apart from the inherent design defects, which led to the abnormally high leakage rate of the precious heavy water, every time the vaults were opened, there was also spillage.

The heavy water had to be stored separately in seven different categories, depending on their grade of purity. This operation called for a dedicated, highly skilled personnel.

HIGH RADIATION

Because of higher radiation ranges in the plant, the availability of plant personnel quickly dwindled. For example, fuelling machine head develops some "hot spot" with high dose of radioactivity and it is not possible to clean it during every fuelling operation. Thus, the workers had to be exposed to the statutory level and towards the end of the year, only skeleton staff would be eligible to be used in such operations. Also, in the fuel machine handling area, the tritium content is quite high and the personnel had to wear plastic suits. But, with the available plastic suits, precision works cannot be carried out and they have to do without them. After such operations, lasting for a few days, these personnel should be removed from duty, perhaps, for the rest of the whole year. In any case, the workers are not exposed to radiation damage beyond the stipulated levels.

Training of control room operators takes at least three years and this lag time should be taken into account while recruiting the operators. Particularly, with the growing trend of brain drain towards the Gulf, the DAE had to take suitable remedial measures.

Considering these aspects, a section of the DAE feels that unit I of RAPS can be shut down and the heavy water and manpower conserved for the Madras Atomic Power Projects. But this suggestion may not find easy favour with politicians, as Rajasthan is already facing a power famine.

However, an expert committee, under the chairmanship of Dr. N. B. Prasad, former secretary to the department of power, is making a technical assessment of the RAPS and its report is being anxiously awaited by the atomic energy circles. The report may be submitted to the government by the end of this month, though it was scheduled to present it by July 10.

CSO: 5100/7124

RAJYA SABHA DISCUSSES NUCLEAR POWER STATION PROBLEMS

Bombay THE TIMES OF INDIA in English 16 Jul 82 p 15

[Report on 15 July Rajya Sabha Session]

[Excerpt] NEW DELHI, Jul 15 (UNI & PTI)--THE Prime Minister, Mrs. Indira Gandhi, told the Rajya Sabha that the existing stock of fuel in the Tarapur atomic power station was likely to last till 1984.

The Tarapur unit was now being operated at lower levels to stretch the available fuel, she said in a written answer.

Replying to another question, Mrs. Gandhi said the enriched uranium sections of the nuclear fuel complex at Hyderabad were likely to be closed down in the event of non-receipt of further supplies of enriched uranium. The government would, however, ensure continued operation of the Tarapur atomic power station, she added.

Answering another question, Mrs. Gandhi said there had been an inordinate delay in the supply of enriched uranium from the U.S. since 1975. The U.S. government had indicated their inability to supply any further fuel.

Mrs. Gandhi said a decision to reprocess the spent fuel would be taken by India at the appropriate time. All nuclear power stations in the country, except Tarapur, use natural uranium as fuel, for which sufficient indigenous capacity was available.

Total installed nuclear power generation capacity in the country is 860 MW. Six more power reactors, each of 235 MW capacity, were under construction. In addition, provision has been made for commencing work on four more reactors during the sixth plan period.

Heavy water: The cumulative demand for heavy water to meet the requirement of the country's nuclear power programme is about 426 tonnes in March 1983. This is expected to rise to 1550 tonnes by March 1988.

Mr. C. P. N. Singh, minister of state for science and technology, said that the actual production of heavy water by the three operating plants at Nangal, Baroda and Tuticorin was about 51 tonnes in 1981.

The heavy water plants at Kota and Talcher were expected to be commissioned later this year. The delay in completion of these two projects was of three to four years.

He said the target for production of heavy water from the three operating plants in the current year was 80 tonnes. Fifty tonnes of heavy water was expected to be imported from the U.S.S.R. during 1982-83, he added.

Replying to another question, the minister said the Madras atomic power project at Kalpakkam had been completed. But it would be commissioned only after adequate inventory of heavy water had been built up.

He said the requirement of heavy water for initial charge of the reactor at Madras atomic power plant was 240 tonnes and the "make up requirements is in the region of 10 to 15 tonnes." India had the capability to produce heavy water by more than one established process, he added.

Replying to another question Mr. Singh said the government proposed to set up a 200-tonnes capacity heavy water plant at Manguru in Andhra Pradesh. Work on the project was expected to start later this year.

CSO: 5100/7122

INDIA

BRIEFS

HEAVY WATER DELAY--Science and Technology Minister CPN Singh told the Rajya Sabha that the delay in the completion of the heavy water projects, Kota and Talcher, ranged from three to four years. This was attributable to the developmental efforts involved in the technology, delay in supply of equipment by indigenous and foreign suppliers, poor response to civil engineering contract action due to remoteness, etc. Heavy Water: In reply to another question Mr Singh said 19980 tonne of heavy water valued at Rs 523.85 crore was imported till date this year. [Text] [New Delhi PATRIOT in English 22 Jul 82 p 4]

KALPAKKAM NUCLEAR PLANT--NEW DELHI, Jul 15--The construction of the first unit of the Madras atomic power project at Kalpakkam has been completed and it will be commissioned as soon as adequate inventory of heavy water is built up, Mr. C. P. N. Singh, Minister of State for Science and Technology, informed the Rajya Sabha today. He said the requirement of heavy water for initial charge of the reactor in Kalpakkam was 240 tonnes and the "make up requirement is in the region of 10 to 15 tonnes." India had the capability to produce heavy water by more than one established process, he added. Replying to another question Mr. Singh said that a 200-tonne-a-year heavy water plant at Manguru in Andhra Pradesh, would come up by the end of 1982. [Text] [Madras THE HINDU in English 16 Jul 82 p 6]

CSO: 5100/7123

'ISLAMIC BOMB' PROPAGANDA REFUTED

Islamabad THE MUSLIM in English 25 Jul 82 p 5

[Book Review: "The Islamic Bomb"]

[Text]

THE ISLAMIC BOMB: by Steve Weissman and Herbert Krosney, Times Books, New York, 1981.

By: M Qureshi
CHEM. ENG.
PAINESVILLE, Ohio USA

Both the authors are T.V. and newspaper journalists and are Zionists Jews. They do not try to hide their relationship with the state of Israel and openly show their strong bias against the Arabs and the rest of the world.

The main stress of the book, which is ubiquitous, is on the point that if an Arab or any third world country, other than the state of Israel, wants to acquire nuclear technology, it is exclusively because of their desire to make a nuclear bomb. Therefore, the technologically advanced nations in the West should not supply to these countries materials which can be used for or in anyway aid in the making of such a bomb. According to the authors, Pakistan should not be sold items like vacuum valves, pipe and metal cutting tools, electric wires, etc., because such items can be used in the creation of nuclear bombs.

The book comprises of 339 pages, is divided into six main sections and altogether has seventeen chapters. Of these, three chapters are devoted to the bombing of the Iraqi nuclear plant by the Israelis. Section four is devoted to Pakistan, which has three chapters and a total of 62 pages. The rest of the book is interspersed with the history of nuclear development, the Arab-Israeli conflict, Pakistan-Arabs relations and so forth.

The bookappears to be primarily aimed at those Jews who, inspite of having been told many proben lies in the past by the Zionists still remain their easy prey. To this type of reader the remarkable achievements of the Pakistani team of scientists will not easily become apparent. The book does try to achieve this task but does not quite succeed.

One of the authors, Steve Weissman, worked as an investigative reporter for a 1980 TV programme for the BBC bearing the same title as the book, "The Islamic Bomb." Most of the material for the book comes from this source and contributes to the general quality of the book. After a little reading, the book takes on the appearance of a collection of a series of new dispatches, all leading to an inconclusive end: whether the Pakistanis actually have the Islamic Bomb or not.

To a Zionist Jew in the West or in Israel, the existance of the state of Israel was justifiable only through the barrel of a gun and its economic and technological ingenuity. When the latter two dissolved into a quagmire, only the first item was left to pin all their hopes upon. Planting of this hope in the now well known Israeli fifth column in the West will become the main aim of the Zionists. This will however, prove futile and may eventually backfire. This fifth column in the West helps Israel with money, but, above all, it helps her with propaganda. In the face of the imagined fear of the development of the Islamic Bomb, only the propaganda in the West will be the mainstay for the existence of the state of Israel in its present Zionists form. There is no doubt that the immediate task facing Pakistan and her friends would be to counteract and undermine the unreal Israeli propaganda in the west. This is the most urgent need on this issue.

The authors try to impress upon the reader that they have succeeded in obtaining the information which may still be classified in Pakistan. However this impression does not last long, when they repeatedly attribute most of their information to people whom they never identify other than calling them only as "reliable sources.' The book looses its value even further when it fails to state clearly, whether the Pakistanis had succeeded in making hundreds of bombs or none.

The reader will be puzzled by the hesitancy of the authors in not explicitly identifying Pakistan as a fullfledged nuclear nation. He will recall that the authors in more than one place state that besides the existence of a small experimental nuclear reactor and a small experimental reprocessing facility for many years, Pakistani scientists completed a pilot reprocessing plant in the midseventies capable of producing ten to fifteen kilograms of material enough to make 2 to 3Hiroshimatype atomic bombs each year. It is further alleged that another pilot plant, this one for the enrichment of urananium, was completed in the later part of the seventies, capable of producing every year six or seven nuclear bombs. Another reprocessing plant, this one on the industrial level was, according to the authors, near completion with an annual reprocessing capacity of 100 tons of used reactor fuel. And yet another industrial plant, this one using the most advanced technology for the enrichment of uranium, was complete and had a trial run in 1979.

People who know the Zionists and their propaganda tactics, know that the confusion spread in the book is not coincidental but deli-deliberate. The book, instead of being informative, which a book of this kind should be, turns out to be a munbo jumbo of Talmudic lies. The Talmud is claimed by the staunch Zionists as a holy book, which exhorts that to cheat and to lie to Christians and other non-Jewish people of the world is a great virtue of the Jewish life.

Pakistani nuclear scientists do not get their due credit. So does the Pakistani team which did all the procuring of material in the West. In fact the authors drop a hint of sidicule here and there. The whole book, deliberately adopts a wishy-washy approach. For instance, they would ask representatives of compaines, which were supposedly supplying materials to Pakistanis, whether they know what the Pakistanis were upto, and wather they will stop supplying the Pakistanis in the future?. The answers the authors get in most cases are invariably the same, viz. that these companies will continue supplying the Pakistanis in the future as they have been doing in the past. In the light of the European Community trading principles, such as just mentioned, the authors threaten at one point in the book that "selling equipment to help Pakistan build a nuclear arsenal will henceforth be considered something akin to trading with the enemy in time of war". (p.221) This has the ring of an infantile babbling. In Europe and America, it is increasingly becoming apparent to the average conscious citizen that Zionism and Israel are, indeed, their real enemies who, besides inflicting visible harm to their nations, also seem to be secretly working in full co-operation with the USSR.

President Zia in the book is called a "shrewed and tough politician," who withstood strong American pressure to stop the Pakistani nuclear programe. President Zia is also said to have kept the French from completely buckling under the US pressure and who continues to get almost everything from the French to complete the contracted reprocessing plant. The book surmises that if it had been anybody other than Pr. Zia, the Pakistani nuclear programe probably would have become forgotton history.

Elsewhere, the book alleges that Pr. Zia does not tell the truth when he insists that Pakistani nuclear programe is for peaceful purposes. It says that some Western diplomats are also skeptical about Pr. Zia's Hatrments. This conclusion is, however, fully reputed by the fact that unless Pakistan wished to literally swim in a sea of nuclear bombs, she would have absolutely no need for its two very expensive and huge industrial nuclear plants. These plants can only be for industrial purposes. For with these plants in production, Pakistan will be able to regenerate reactor fuel as well as separate rare precious metals. These materials will help Pakistan earn the much needed foreign exchange. With the natural resources of uranium soon to become depleted, Pakistani plants will turn into even more valuable assets. Also, by developing its nuclear programme from domestic technical resources, Pakistan may be able to establish a base which could usher her among the world's moderate industrial nations.

It is abvious that the book might not have come into existence were it not to express Israel, military propaganda strategy of bluff in the face of progressive loss of supermacy in the region. It came out only shortly after the formidable military buildup of her neighbours and their political victories on the world scene. In this regard the book also cites a report put forth by the Tel Aviv University Center for Strategic Studies. This report (p.307 footnote) strangely enough, came out on Aug. 25, 1981 the time when the book must have been just ready to go to the printing press.

The report suggests that in the light of the inevitability the Arabs acquiring nuclear weapons, Israel should develop a second strike capability in case the Arabs make the first strike. No matter how sincere these planners may be in their assessment, one consideration must, obviously, haunt their minds constantly: for its size and population Israel cannot even afford to whisper about the nuclear strategh much less to talk about it in the open.

Finally, in what the book has to say about the much expected Pakistani nuclear test, which so far has not taken place, it is in full agreement with what most experts have been saying all along. For the Pakistanis the desire to explode a nuclear device will be dictated by political necessities and not by technological considerations.

CSO: 5100/5690

NUCLEAR SAFETY COUNCIL SET UP

Johannesburg THE CITIZEN in English 30 Jul 82 p 8

[Text]

THE Minister of Mineral and Energy Affairs, Mr F W de Klerk, yesterday announced the establishment of an independent Council for Nuclear Safety to advise him on the safety of nuclear activities and installations.

The council will also have the right of veto on the granting of nuclear licences by the Atomic Energy Corporation, the organisation responsible for promoting nuclear energy and related technologies.

The AEC's own installations will also be subject to review by the council.

The Minister's statement said the establishment of the council was an important step in restructuring nuclear activities in South Africa.

Appointed by the Minister, the council would be responsible only to him for the safety review of nuclear installations and other nuclear activities, irrespective of whether such activities were undertaken by public organisations or the private sector.

Mr S L Craib, former chairman of the Nuclear Safety Advisory Council, has been appointed chairman of the council. Mr M T de Waal, managing director of the Industrial Development Corporation of SA, is vice-chairman. — Sapa.

CSO: 5100/5689

BRIEFS

NO KOEBERG DANGER--CAPE TOWN--The switchboard fire at the Koeberg nuclear power station last weekend posed no threat to nuclear safety, a spokesman at the plant said yesterday. Investigation into the cause of the fire was continuing. Preliminary findings indicated "a foreign body accidentally may have been left inside the distribution board and caused the fault which in turn led to the fire". The plant was still in the testing phase and some electrical protection arrangements were left incomplete. "This situation may have led to the delay in clearing the fault," the spokesman said. [Text] [Johannesburg THE CITIZEN in English 24 Jul 82 p 2]

CSO: 5100/5688

CANADA

QUEBEC TO TRAIN OWN NUCLEAR ENGINEERING SPECIALISTS

Montreal LA PRESSE in French 25 Jun 82 p A11

[Article by Jean Poulain]

[Text] By means of an agreement reached between the EACL [Atomic Energy of Canada, Ltd] and the Polytechnical School of Montreal, which was signed officially yesterday, Quebec, or Hydro-Quebec to be specific, after a 20-year lag behind Ontario, is going to be able to develop its expertise in nuclear engineering, and will be able to train its own specialists.

The agreement covers the transfer of technology, including magnetic tapes and software (computer programs), covering 20 years of experience exchanged between this federal crown company and Hydro-Ontario in the field of nuclear power plants.

As the president and principal of the Polytechnical School, Mr J. Bernard Lavigueur, explained to LA PRESSE before the official signing of this agreement, the selection of this Quebec engineering school was prompted by its IGN [Nuclear Engineering Institute], which has been training theoreticians in this field for the province since its founding in 1970.

This new cooperative program with AECL will be carried out through the GAN [Nuclear Analysis Group], an organization that was set up in June 1981 with the financial and technical assistance of Hydro-Quebec.

Mr Wladimir Paskievici, the director and head professor at the IGN, told LA PRESSE that the agreement with the EACL will enable the Quebec school to study the AECL's software for nuclear power plant simulation. This simulation is used in Ontario, but not in Quebec.

The original idea behind this agreement for Quebec was to train a minimum number of nuclear engineering specialists in case the province should decide to build its own nuclear power plants.

Before the document was signed, Mr Laurent Amyot of EACL made a short speech, in which he mentioned the three major features of this agreement:

a. It is the first formal agreement under the sponsorship of the Quebec office of the EACL; this office was established last January.

b. The EACL will cooperate with the Polytechnical School through the school's IGN, for the application of the computer programs transferred.

c. A subsidy of $120,000 a year will be provided by the federal crown company.

The agreement also includes the official cooperation of the GAN, which is receiving from EACL the license enabling it to use EACL's software. According to Mr Amyot, this is setting a precedent in Canada, and perhaps even in North America.

Mr Lavigueur, president of the Polytechnical School, said that the reasons behind the founding of the IGN in 1970 were first to train specialists in nuclear engineering, and secondly, to conduct research in this field.

The administration of the Polytechnical School then proposed to Quebec's ministry of energy that nuclear technology be transferred from Ontario to Quebec, with the establishment in June 1981 of the GAN, with Hydro-Quebec as its main user.

An EACL staff member, Paul-Edmond Tremblay, indicated that the agreement calls for the transfer within 60 days of about a dozen codes (computer programs) to the Polytechnical School, in the form of magnetic tapes and other documents.

The agreement also calls for providing assistance to students in interpreting the programs being transferred.

Finally, the EACL will pay an annual subsidy of $120,000.

In all, said the EACL staffer, "we plan to transfer about 40 codes within the next 3 or 4 years."

Mr Daniel Rozon, the deputy director of the GAN, who is in charge of programming, said that it was essential for Hydro-Quebec to acquire some knowledge in the field of nuclear engineering. This knowhow, he said, is not just information contained in libraries, but it also means the acquisition of an art, of experience that might have been very expensive to obtain, in terms of the design of a power plant or a reactor. Not only can this knowledge now being obtained at a better cost, but also factors concerning the safety aspects of the operation, through the use of digital computer simulations (equations concerning the neutron flow, thermo-hydraulics, analysis of constraints, the propagation of radioactivity, etc.)can be acquired.

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BRIEFS

PWR FACILITY AT CIVAUX--On Wednesday afternoon in Poitiers, Mr Edmond Herve, the minister of energy, announced that the government has decided to build a PWR [Pressurized Water Reactor] plant at Civaux (Vienne department). This plant will, however, have only two of the four 1300 MW units originally planned for the project. Mr Herve made this statement while speaking to the elected officials of the department and the members of the local information commission. "The commission had expressed some reservations about the problems with water," said the minister, if four units were built. So we followed its opinion, and decided to build only two units." The public investigation will begin in either September or October of this year, and the statement of public utility might be made by 1 July 1983. Work should start in 1985 and the power plant could be operating in 1991. With two units, the construction site should employ up to 2,200 people, and a procedure called "post-major construction projects" will be used for the benefit of the region. [Text] [Paris LES ECHOS in French 2 Jul 82 p 6] 7679

LOIRE REGION FAVORS INSTALLATION--On Monday, meeting at Nantes, the general council of the Loire region came out in favor of the Carnet site for the construction of a nuclear power plant in the Basse-Loire area. The minister of energy had asked the regional officials to choose between the sites of Rohars (on the north bank of the Loire) and Le Carnet (on the south bank), after giving them the studies done by EDF [French Electric Power Company]. This topic aroused a heated debate between the majority of the council which belongs to the opposition, and the PS [Socialist Party] which abstained from voting. The PC [Communist Party] spoke out in favor of the site at Le Carnet. [Text] [Paris LES ECHOS in French 6 Jul 82 p 4] 7679

NUCLEAR TALKS WITH TAIWAN--Negotiations on the storage and reprocessing of irradiated fuels and wastes from Taiwan's nuclear power plants are now in progress between French authorities and the Taiwan Power Company, which operates these plants, said the chairman of the company, Mr Chen Lan-Kao. Mr Chen, in speaking to the Taipei Parliament, said that agreements on this matter should be signed by Taiwan with several foreign governments, including the French government, within the next few years. Until the present, the problem of the storage and reprocessing of nuclear wastes from the three power plants (built in the United States) operating in Taiwan has been covered by agreements with the United States. Mr Chen did not say why the French had been contacted on this matter. [Text] [Paris LES ECHOS in French 23 Jun 82 p 7] 7679

LA HAGUE REPROCESSING PLANT OUTPUT--The output of the La Hague reprocessing plant has been "very definitely higher" than last year's," announced the plant's management. During the reprocessing program for fuels from light water nuclear power plants, which ended on 30 June, 165 tons were reprocessed. This figure was 140 tons in 1979-1980. This raises to 510 tons the total of this type of fuel which has been reprocessed at La Hague, said the management sources. This program, which had scheduled the reprocessing of 135 tons during the first half of 1982, was exceeded with 154 tons. According to the management, this most recent program confirms the plant's ability to handle a minimum capacity of 250 tons a year. The expansion now in progress will raise this capacity to 1,600 tons a year at the end of this decade. As happens every year, the reprocessing operations will be halted during July and August. These two "inter-program" months will be used for maintenance and for "modifications and additions." [Text] [Paris LES ECHOS in French 6 Jul 82 p 4] 7679

STRIKE ENDS AT NOGENT--After a 60-day strike, work resumed on Tuesday at the site of the future Nogent-sur-Seine nuclear power plant. With a certain amount of lassitude, the last group of CGT [General Confederation of Labor] strikers (about 100 workers) brought an end to this conflict which had been at a standstill for over a month. The company's management gave the workers job guarantees, a 13th month of wages as a bonus, and a 2-point increase in the bonus for good performance. However, the CGT did not get a bonus for short-distance moves, indexing of wages on the Ile-de-France region, and an increase of up to 10 percent in the bonus for good job performance. Because of this dispute, the GIE [Economic Interest Group] is losing 10 million francs; it will now have to renegotiate a new schedule for completion of the job with EDF [French Electric Power Company]. [Text] [Paris LES ECHOS in French 24 Jun 82 p 7] 7679

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